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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,403	12/08/2005	Christian C. Burger	66722-080-7	4598

25269 7590 06/19/2008

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EXAMINER

ROBINSON, RYAN C

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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06/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/554,403	Applicant(s) BURGER ET AL.	
	Examiner RYAN C. ROBINSON	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/24/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11 are pending in the current application.
2. The examiner acknowledges the preliminary amendments filed on 10/24/2005.
3. Claims 4-5, 9 and 11 have been amended on 10/24/2005.

Priority

4. This application claims priority from PCT application number PCT/DK2004/000276, filed on 4/22/2004, which claims priority from Danish Patent application number PA 2003 00638, filed on 4/28/2003.

Claim Objections

5. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Dependent claim 4 claims “a hearing aid”, which does not further limit the parent claim 1. Examiner suggests that the dependent claim 4 should read the “microphone with housing as claimed in claim 1, used/(for use) in a hearing aid”.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ewens et al., PCT Publication No. WO 94/14292, published on 6/23/1994 (hereby Ewens).

7. As to claim 1 Ewens discloses a microphone (Fig. 1) with housing (11) and an active element inside the housing for converting sound energy into electric energy (14), whereby an inlet is provided for directing sound energy from the surroundings to the active element, whereby the inlet comprises a first tube part (23) and a cavity in connection with the first tube part (22), whereby the cavity is dimensioned to dampen ultrasonic frequencies. Ewens teaches that the cavity (22) forms a Thuras tube, which corresponds to dampening ultrasonic frequencies. (Page 4, lines 19-22). The cavity (22) is shaped as a second tube part with a length dimension, which varies slightly with the cross section of the second tube part. The cavity (22) which forms a tube is curved, therefore the length dimension varies with respect to the cross section.

8. As to claim 6 Ewens discloses an inlet structure for a microphone (Fig. 1) comprising a first tube part (23) and a cavity in connection with the first tube part (22), whereby the cavity is dimensioned to dampen ultrasonic frequencies. Ewens teaches that the cavity (22) forms a Thuras tube, which corresponds to dampening ultrasonic

frequencies. (Page 4, lines 19-22). The cavity (22) is shaped as a second tube part with a length dimension, which varies slightly with the cross section of the second tube part. The cavity (22) which forms a tube is curved, therefore the length dimension varies with respect to the cross section.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-4, and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ewens et. al. PCT Publication No. WO 94/14292, published on 6/23/1994 (hereby Ewens), in view of Didyk et. al., U.S. Patent No 3,439,128, published on 4/15/1969 (hereby Didyk).

11. As to claim 2, Ewens does not expressly disclose that the cavity (22) has a dimension L which is around 1/4 of the wavelength of the ultrasonic frequency to be damped. However, dimensioning a tube according to damping a particular frequency is well known in the art.

Didyk teaches a microphone inlet, with a Thuras tube (Fig. 2, element 72) connected to the inlet (70). Didyk discloses that the tube is formed to a predetermined length in order to tune for a certain frequency response. It would have been obvious to

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one skilled in the art to adjust the length of the cavity (22) of Ewens to a dimension necessary for damping a particular frequency. Using the known technique of sizing a tube as taught by Didyk to achieve the predictable result of damping an ultrasonic frequency would have been obvious to one of ordinary skill.

12. As to claim 3, Ewens teaches that the second tube part (22) is curved, and arranged in a plane perpendicular to the first part (23).

13. As to claim 4, Ewens teaches that the cavity or second tube (22) is in close proximity to the microphone (14). The tubular cavity (22) is on a plate-like structure (17), which is mounted above microphone (14).

14. As to claim 7, Ewens does not expressly disclose that the cavity (22) has a dimension L which is around $1/4$ of the wavelength of the ultrasonic frequency to be damped. However, dimensioning a tube according to damping a particular frequency is well known in the art.

Didyk teaches a microphone inlet, with a Thuras tube (Fig. 2, element 72) connected to the inlet (70). Didyk discloses that the tube is formed to a predetermined length in order to tune for a certain frequency response. It would have been obvious to one skilled in the art to adjust the length of the cavity (22) of Ewens to a dimension necessary for damping a particular frequency. Using the known technique of sizing a tube as taught by Didyk to achieve the predictable result of damping an ultrasonic frequency would have been obvious to one of ordinary skill.

15. As to claim 8, Ewens teaches that the second tube part (22) is curved, and arranged in a plane perpendicular to the first tube part (23).

16. As to claim 9, Ewens teaches that the cavity or second tube (22) is in close proximity to the microphone (14). The tubular cavity (22) is on a plate-like structure (17), which is mounted above microphone (14).

17. As to claim 10, Ewens teaches that the second tube part (22) is curved, and arranged in a plane perpendicular to the first tube part (23).

18. As to claim 11, Ewens teaches that the cavity or second tube (22) is in close proximity to the microphone (14). The tubular cavity (22) is on a plate-like structure (17), which is mounted above microphone (14).

19. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ewens et al. PCT Publication No. WO 94/14292, published on 6/23/1994 (hereby Ewens).

20. As to claim 5, Ewens does not expressly disclose a hearing aid having the microphone with respect to claim 1, however Ewens does suggest that the transducer is to be used for any device requiring an electro-acoustic transducer, and one of ordinary skill in the art would immediately recognize that such a transducer is capable of being incorporated into a hearing aid.

Conclusion

The prior art made of record

- a. PCT Publication Number **WO 94/14292**
- b. US Patent Number **3,439,128**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Robinson whose telephone number is (571) 270-3956. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Suhan Ni, can be reached on (571) 272-7505. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan Robinson

/Suhan Ni/
Primary Examiner, Art Unit 2615